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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BAYARD, EMMANUEL

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/802,603

Applicant(s)

SANTHOFF ET AL.

Examiner

Emmanuel Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-38 and 42-48 is/are allowed.
- 6) ☒ Claim(s) 39 is/are rejected.
- 7) ☒ Claim(s) 40 and 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date Z.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 39 is rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al U.S. Patent No 6,275,522 B1.

As per claim 39, Johnson et al discloses a method for estimating channel quality in multi-channel ultra-wideband communication system, the method comprising the steps of: pseudo-randomly placing a plurality of time bins (see figs.3 and 4 and col.5, lines 45-67) within a plurality of time frames, each time bin comprising one or more data bits; assigning a plurality of channels comprising selected pseudo-randomly placed time bins (see col.1, lines 54-67 and col.2, lines 9-15, 19-30); transmitting a multiplicity of data bits through the plurality of channels (see figs.3-4 elements 309, 409 and col.1, lines 54-67 and col.4, lines 39-40); monitoring the number of data bits transmitted through each channel; determining a number of data error in the transmissions (see col.3-col.4); determining a projected bit error rate for at least one transmission (see col.3-col.4); grading a channel quality using at least the projected bit error rate (see col.3, lines 25-67 and col.4, lines 8-67).

*Allowable Subject Matter*

3. Claims 40-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 1-38 and 42-48 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: determining an absolute value of a difference of the change in adjacent time bin radio frequency amplitude averages, thereby obtaining a rate of change in adjacent time bin radio frequency amplitude averages as recited in claim 1. Determining a difference between the change of the radio frequency amplitude in corresponding time bins across successive frames, thereby obtaining a rate of change in the radio frequency amplitude in corresponding time bins across successive frames as recited in claim 13. Averaging the radio frequency amplitude data from the selected pseudo-randomly placed time bins, thereby obtaining an average radio-frequency amplitude in each of the plurality of channels as recited in claims 24 and 42. Where PBER is a projected value of the bit error rate,  $n$  is the number of bits transmitted, CL is a confidence level,  $N$  is the total number of bits errors that occur during the transmission and  $k$  refer to a  $K$ th bit error as recited in claim 40.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jeong et al U.S. patent No 6,721,561 B1 teaches a method for building a home-zone database.

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Tkalcevic U.S. patent No 5,056,051 teaches a signal direction finding processor using fast Fourier transform.

Sirivara U.S. patent No 6,519,559 B1 teaches an apparatus and method for the enhancement of signals.

Jain U.S. patent No 5,189,701 teaches a voice coder/decoder.

Marash et al U.S. patent No 6,363,345 B1 teaches a system, method and apparatus for canceling noise.

Schoolcraft U.S. patent No 5,237,587 teaches a pseudo noise modem and related digital correlation.

Eckstein et al U.S. patent No 6,249,229 B1 teaches an electronic article security system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 703 308-9573. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM)

Alternate Friday off.

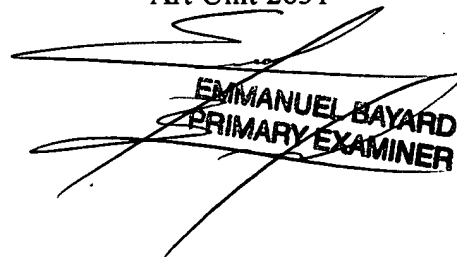
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 703 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Emmanuel Bayard  
Primary Examiner  
Art Unit 2631

7/22/04



EMMANUEL BAYARD  
PRIMARY EXAMINER